

## **Research Report**

# **Tackling Cross-border Environmental Problems in Hong Kong: Initial Responses and Institutional Constraints\***

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**ABSTRACT** With rapid industrial and urban growth taking place across the border, there has been a marked increase in public concern in Hong Kong over cross-border environmental problems since the early 1990s. Despite this increased concern, however, very little systematic research has been conducted on the issue. This article addresses the question of how, and to what extent, the SAR government could work with various jurisdictions across the border to address cross-border environmental problems within the “one country, two systems” governance framework. It concludes on a pessimistic note by pointing out that current signs strongly suggest that the SAR government is even more pro-business than the colonial government. Coupled with China’s fragmented environmental governance structure and a dominant pro-growth culture permeating the delta region, all indications point to an uphill and long drawn-out battle for environmental managers on both sides of the border to bring forth improvements in this fast-growing and continually deteriorating landscape.

The restructuring of Hong Kong’s economy since the early 1980s has substantially changed both the nature of the environmental problems and the burden of tackling these problems in the territory. With the gradual relocation of industry from Hong Kong to the Zhu (Pearl) River Delta region in the last two decades and with rapid industrial development across the border, there has been a marked increase in concern among environmental managers and researchers in Hong Kong over the impacts of cross-border pollution problems since the early 1990s.<sup>1</sup> By the mid-1990s, a consensus had apparently been reached by many researchers that for local environmental programmes to be more effective and realistic, research as well as policy actions on Hong Kong’s environment would need to be placed in a larger regional context.<sup>2</sup>

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1. For the purposes of this article, cross-border pollution problems refer to that class of pollution problems where the adverse impacts of effluents and emissions created in one jurisdiction extend beyond its own boundary and are observed and suffered by its neighbouring jurisdictions.

2. Hung Wing-tat, “The environment,” in *The Other Hong Kong Report 1994* (Hong Kong: The Chinese University Press, 1994), pp. 253–264; Man Si-wai, “The environment,” in *The Other Hong Kong Report 1993* (Hong Kong: The Chinese University Press, 1993), pp. 327–343; Peter Hills, “The environmental agenda in post-colonial Hong Kong,” *Local Environment*, Vol. 2, No. 2 (1997), pp. 215–19; Ng Cho-nam and Ng Ting-leung, “The environment,” in *The Other Hong Kong Report 1997* (Hong Kong: The Chinese University Press, 1997), pp. 483–504.

This consensus is predicated on three major premises. First, given Hong Kong's geographical size and location, the success of any environmental initiative in Hong Kong would require concerted efforts on the part of nearby Chinese authorities. In the absence of a co-ordinated environmental strategy that involves all the principal players in the region, increased resources devoted to the environmental cause in Hong Kong alone will be wasted and efforts made in vain.<sup>3</sup> For instance, the waters around the Zhu River Delta estuarial areas are very polluted and it would require the combined efforts of the local governments in the delta to resolve this issue effectively.<sup>4</sup>

Secondly, from the perspective of Hong Kong-based environmental managers and researchers and viewed from a strategic regional perspective, there is an increasing risk that environmental pollutants originating from inside Hong Kong as well as other cities and counties in the Zhu River Delta, if they remain uncontrolled, will converge and turn into a significant region-wide problem such as photochemical smog. It is therefore important to develop a regionally-based planning framework and related institutions that would take a strategic management viewpoint on development activities throughout the Zhu River Delta.

Thirdly, given the substantial differences in environmental standards, objectives and environmental governance structures between Hong Kong and its neighbouring jurisdictions and given the extremely limited extent of co-operation between them in the past, it is paramount that the mechanism of existing and any alternative regional environmental governance structures be examined in detail and their respective strengths and limitations be assessed thoroughly.

By the late 1990s, the consensus on the need to seek a regional approach was reinforced by several major episodes of cross-border environmental pollution that have become highly controversial, forcing political leaders on both sides of the border to pay an increasing amount of attention and resources to address such issues.<sup>5</sup> For instance, in early

3. Some environmental NGOs in Hong Kong have claimed that "anti-pollution measures [introduced in Hong Kong] will be overwhelmed by contamination from the mainland," *South China Morning Post*, 4 August 1997. Moreover, it was reported that some Hong Kong government officials "privately admit [that] Hong Kong's greatest environmental threat lies across the border, particularly in the contaminants swirling about the Pearl River Delta." *South China Morning Post*, 1 July 1997.

4. Brian Morton, "Protecting Hong Kong's marine biodiversity: present proposals, future challenges," *Environmental Conservation*, Vol. 23, No. 1 (1996), pp. 55-65. Jian-hua Liu and Peter Hills, "Marine protected areas and local coastal conservation and management in Hong Kong," *Local Environment*, Vol. 2, No. 3 (1997), pp. 275-297.

5. This consensus is also widely shared by the public in Hong Kong. Some 70% of the respondents in an October 1998 survey believed that both Hong Kong and its neighbouring jurisdictions have jointly contributed to the water pollution problem in the Zhu River estuarial area, and up to 90% believed that the Hong Kong government should work with the mainland jurisdictions to address water pollution problem. See Lam Kim-che (ed.), *Sewage Disposal Strategy: Our Expectation and Obligation*, Occasional Paper No. 105, Hong Kong Institute of Asia-Pacific Studies, The Chinese University of Hong Kong (2000), pp. 29-30. The private sector in Hong Kong has also pointed out that the "control of the emerging smog pollution in Hong Kong would require close cooperation between all the Governments in the Pearl River Delta region." See Vivien Chung, "Tracing pollution to its source," *Hong Kong*

1998, accusations were traded between Hong Kong and mainland groups over the origins of some red tides that had dealt a heavy blow to the local fishing economy.<sup>6</sup> By the end of 1999, when the Air Pollution Index (API) figures in Hong Kong reached record-breaking levels and led to public outcries, officials were quick to point to “mainland air pollutants” as the major culprit, resulting in a somewhat strained relationship between the Hong Kong Special Administrative Region (SAR) and the Guangdong governments.<sup>7</sup> In the year 2000, the table was turned against the SAR when Guangdong’s environmental protection authorities expressed anger at the dumping in mainland waters of toxic mud dredged from Hong Kong’s Container Terminal 9 project.<sup>8</sup>

Within the research community, increasing concerns over cross-border environmental problems have been expressed by researchers working on Hong Kong’s environment since the early 1990s, but relatively little systematic research has been conducted on this issue. For instance, in a 1997 issue of *One Earth*, the official publication of the Friends of the Earth in Hong Kong, the editor pointed out that “few researchers have been brave enough to tackle cross-border pollution, so little is known about its impact.”<sup>9</sup>

This article seeks to fill the gaps in the understanding of the cross-border environmental issues in the delta region by exploring several inter-related questions. What are the scope, extent and broad patterns of cross-border environmental problems affecting Hong Kong and its environs in general? To what extent, and how, in the pre- and post-1997 years, has the Hong Kong government been working with its counterparts in the delta region in addressing cross-border environmental problems? Under the provisions of the “one country, two systems” framework that governs the relationships between the SAR government and mainland jurisdictions, what has been achieved and what are the outstanding limitations that have hindered further progress in tackling cross-border, region-wide environmental ills?

### *Cross-Border Environmental Problems*

In the early 1990s, the most visible signs of cross-border environmental problems affecting Hong Kong related primarily to water

*footnote continued*

*Industrialist*, No. 1 (1999), pp. 42–43. Even pro-democracy groups, who were once wary of any contact with mainland authorities, recognized the need for co-operation on certain policy issues such as the environment. See Mark Mitchell, “Married to the mainland,” *Far Eastern Economic Review*, 19 October 2000, p. 24.

6. For example, while a Zhuhai government official complained that the red tide was coming from Hong Kong, an SAR non-governmental organization, Friends of the Earth, argued that it was pollution from factories in Shenzhen that was responsible for the emergence of red tide in the first place. In fact, mainland and Hong Kong officials have argued over sewage outfalls and industrial waste for years, with implications extending to fishing zones and ecologically sensitive areas on both sides of the border. *South China Morning Post*, 15 April 1998.

7. *South China Morning Post*, 30 December 1999.

8. *South China Morning Post*, 21 September 2000.

9. *One Earth*, Autumn 1997, p. 4.

pollution. At that time, Deep Bay – a water body that lies between Hong Kong and Shenzhen – was regarded as the second most polluted body of water in Hong Kong after Victoria Harbour.<sup>10</sup> Data from Hong Kong's Advisory Council on the Environment showed that pollution indicators in Deep Bay have been deteriorating since 1990. The manager of Mai Po reserve, a Ramsar site located in Deep Bay and managed by a Hong Kong-based environmental NGO World-Wide Fund for Nature, pointed out that "the most serious threat to Mai Po was pollution pouring into Deep Bay from both sides of the border – from livestock farms in the New Territories and Shenzhen's sewerage and industrial waste."<sup>11</sup>

Since 1997, however, both government officials and environmental researchers in Hong Kong began to assert that, as far as cross-border environmental problems were concerned, the worst may be yet to come from air pollution.<sup>12</sup> A scientist with the University of Science and Technology in Hong Kong has also warned that "air quality in the region, specially the west of Hong Kong, will worsen significantly.... While Hong Kong grapples with its own air pollution, growth in vehicle numbers in China threatens to destroy attempts here to reduce diesel emissions which contain the tiny particulates linked to respiratory illness."<sup>13</sup>

In fact, since the mid-1990s, public attention in Hong Kong has slowly been drawn to the problem of cross-border impacts of air pollutants originating from the other side of Shenzhen River.<sup>14</sup> And this issue was subsequently brought to the forefront in Hong Kong's media at the end of 1999 as the Hong Kong Environmental Protection Department reported some record-breaking API figures. On 30 December 1999, the API figures were recorded at 161, 153 and 155 at the Tung Chung, Tsuen Wan and Yuen Long air quality monitoring stations respectively.<sup>15</sup> Scientists at the Hong Kong Observatory reportedly said that the air pollution problem in the North-west New Territories (where Yuen Long is located) was more severe than other parts of the city because two major types of air pollutants – nitrogen oxides and respirable suspended particulates – were carried by north-easterlies down from the Zhu River Delta region into Hong Kong's air space.<sup>16</sup>

In response to public outcries about the record-breaking API figures, Hong Kong government officials immediately acknowledged that the numbers were alarming but pointed out that this was a regional problem in the Zhu River Delta. Moreover, they said that they needed to wait for

10. Peter Hills and William Barron, "Hong Kong: can the dragon clean its nest?" *Environment*, Vol. 32, No. 8 (1990), p. 44.

11. *South China Morning Post*, 23 August 1997.

12. *South China Morning Post*, 1 July 1997; 4 October 1997.

13. *South China Morning Post*, 1 July 1997.

14. In 1997, for instance, a university researcher in Hong Kong claimed that the 1996 record high air pollution figures were caused by a dust storm in the Gobi Desert and a favourable meteorological condition that carried the pollutants over a long distance into Hong Kong's air space. *South China Morning Post*, 9 March 1997.

15. *Pingguo ribao*, 31 December 1999.

16. *Dagong bao*, 31 December 1999.

the results of a cross-border study, designed to examine the impact of air pollution from the mainland, before they could determine the course of action to be taken to tackle this issue.<sup>17</sup>

### *Cross-border Co-operation on Environmental Issues*

For a number of years, both prior to and after the 1997 handover, concerned parties, including environmental groups, politicians and the corporate sector, have repeatedly called upon the Hong Kong government to strengthen its co-operative ties with mainland jurisdictions to address transboundary environmental issues. A major presumption behind such a plea is that the Hong Kong government has not actively pursued co-operative linkages with its mainland counterparts to tackle environmental ills that have spill-over effects across the border. Research has revealed that there is some basis to support such a perception. Despite the fact that several major mechanisms have been established in the 1990s to help co-ordinate cross-border environmental issues, progress has been slow and accomplishments limited.<sup>18</sup>

*Mode of co-operation.* Starting in 1985, but primarily during the 1990s, several major mechanisms have been established to help co-ordinate cross-border environmental issues (Table 1). The ambit of two of these committees was strictly confined to environmental concerns only, such as the Hong Kong–Guangdong Environmental Protection Liaison

**Table 1: Cross-boundary Co-ordinating Committees on Environmental Issues**

| <i>Year</i>  | <i>Cross-boundary co-ordinating committees</i>  |
|--------------|---|
| 1985–2000    | Sino-British Joint Liaison Group  |
| 1990–1999    | Hong Kong–Guangdong Environmental Protection Liaison Group                                      |
| 1994–1997    | Sino-British Infrastructure Co-ordination Committee   |
| 1997–present | Hong Kong–Mainland Cross Boundary Major Infrastructure Co-ordinating Committee                  |
| 1998–present | Hong Kong–Guangdong Co-operation Joint Conference   |
| 1999–present | Hong Kong–Guangdong Joint Working Group on Sustainable Development and Environmental Protection |

17. *South China Morning Post*, 20 February 2000. The study was scheduled to be completed by the end of 2000.

18. In January 2000, the Hong Kong SAR government and the State Environmental Protection Agency signed the first formal Memorandum of Co-operation on environmental protection after Hong Kong became an SAR in 1997. This memorandum pertained to the Basel Convention and stipulated the formal procedure and process in regulating the transfer of waste materials, particularly hazardous and dangerous substances, between Hong Kong and the mainland. *Wenhui bao*, 8 January 2000.

Group (EPLG) and the Hong Kong–Guangdong Joint Working Group on Sustainable Development and Environmental Protection (JWG). Two other co-ordinating bodies were charged with a mandate that had enormous implications for the environment and were asked to consider the ensuing environmental issues, but only as a secondary concern. The Sino-British Infrastructure Co-ordination Committee (SBICC) and its successor, the Hong Kong–Mainland Cross Boundary Major Infrastructure Co-ordinating Committee (ICC), belong to this category. A third type of transboundary committee was originally given broad responsibilities, with the environmental issue accorded merely a residual status on their agendas. The Sino-British Joint Liaison Group (JLG) and the Hong Kong–Guangdong Co-operation Joint Conference (CJC) fall into this last category.

The formation of the first type of these cross-boundary committees (EPLG and JWG) is in itself a tacit acknowledgement of Guangdong's influence on the SAR's environment, and vice versa, by authorities on both sides of the border. But the creation of a succession of intergovernmental bodies within a relatively short period of time that share similar and sometimes overlapping responsibilities begs various questions. Why were they formed one after another within such a short time? To what extent were their roles and functions different? What were their major accomplishments, particularly with regard to their respective impact on transboundary environmental problems? What are the major barriers that have kept them from achieving their stated objectives? To the extent that the progress of cross-border co-operation in tackling transboundary environmental issues has been described by critics as painfully slow and limited, and given the various constraints that they were subject to, what is the prospect of such mechanisms making major gains in the near future? Before each of these questions is examined, it is instructive to review briefly the historical context within which the bodies were formed in the first place and what each has accomplished.

*The Hong Kong–Guangdong Environmental Protection Liaison Group.*

This group was set up in July 1990 “to further enhance the co-operation and co-ordination on environmental management and pollution control efforts in areas of mutual concern.”<sup>19</sup> A technical sub-group, directly serving the EPLG, was also formed at the same time to fulfil a clearly defined objective – to consider the establishment of common standards

19. The Hong Kong delegation was headed by the then Secretary for Planning, Environment and Lands and its members included: Director of Environmental Protection; Director of Agriculture and Fisheries; Director of Planning; and Director of Drainage Services. The Guangdong delegation was headed by the Director of Environmental Protection Bureau of Guangdong Province and its members included: Vice-Chairman of Construction Committee of Guangdong Province; Deputy Director of Guangdong Provincial Oceanic and Aquatic Bureau; Deputy Secretary-General of People's Government of Shenzhen; Director of Environmental Protection Bureau of Shenzhen; Director of South China Sea Branch of State Oceanic Administration; and Deputy Division Chief, Hong Kong and Macau Affairs Division, Office of Foreign Affairs, the People's Government of Guangdong Province. *Ibid.* pp. 1–2.

and objectives for protecting the ecosystem in Deep Bay.<sup>20</sup> Unlike the EPLG which convened once a year, experts on the technical sub-group gathered together once every two months, and their responsibilities were gradually broadened over the years.<sup>21</sup> Of all the cross-boundary co-ordinating committees, the EPLG, given its exclusive mission on environmental issues, was naturally the focal point for a multitude of co-operation projects.

*Hong Kong–Guangdong Joint Working Group on Sustainable Development and Environmental Protection.* Formed in October 1999, and led by the SAR's Secretary for Environment and Food and the Director of the Guangdong Environmental Protection Bureau, this group was referred to by the Hong Kong government as "the best forum to strengthen cross-border environmental co-operation."<sup>22</sup> At its first meeting held on 8 June 2000 in Guangzhou, the group agreed to complete an ongoing research study on air pollution in the Zhu River Delta by early 2001.<sup>23</sup> Agreeing to meet twice a year, the group also decided to focus on six priority areas: the improvement of air quality in the region; improvement of water quality in their respective jurisdictions; exchanging experiences on urban planning and sustainable development; improvement of the water quality in the Dongjiang; strengthening nature conservation; and examining the feasibility of unifying diesel fuel standards in the region. Judged by the scope of its agenda, it is apparent that the JWG is more than just a new label patched on to its predecessor, the EPLG, prompted in part by the newly created Bureau on Environment and Food in Hong Kong. With the notion of sustainable development given such a prominent position in its title, it is evident that this body will assume an increasingly broader agenda in the future.

*Sino-British Infrastructure Co-ordination Committee.* This committee was set up in December 1994 with a well-defined mandate – to help speed up infrastructure development and help reduce conflicts over projects in the Zhu River Delta.<sup>24</sup> Unlike most other cross-border co-ordinating committees which were driven by concerns that were mutually shared by Hong Kong and mainland jurisdictions, its formation was prompted more by China's own concerns over several pending large-scale infrastructure projects at regional and national scales than by the British colonial government's worry about infrastructure redundancy.

20. Environmental Protection Department, *Environment Hong Kong 1998* (Hong Kong Special Administrative Region Government, 1998), p. 13.

21. *Ibid.*

22. *South China Morning Post*, 28 August 2000.

23. *Ming bao*, 9 June 2000.

24. The British team was led by the Secretary for Planning, Environment and Lands and its members included the Secretary for Economic Services, the Secretary for Transport, the Director of Planning and representatives of the Highways Department. The Chinese team was led by the economic chief of the Hong Kong and Macau Affairs Office and its members included officials in charge of state planning, aviation, energy resources, railways and transport co-ordination. *South China Morning Post*, 23 January 1995.

Contrary to the expressed eagerness of their Chinese counterparts, some senior Hong Kong administrators initially expressed strong reservations about setting up a cross-border committee on infrastructure matters because they were afraid that the colonial government's autonomy might be compromised.<sup>25</sup> In the end, after much deliberation, the Hong Kong government concluded that there was a genuine need for more co-ordination between jurisdictions on both sides of the border, given that such a body would help minimize the possibility of each locality engaging in projects that might be at odds with each other's development objectives or pollute each other's environment.<sup>26</sup>

*Hong Kong–Mainland Cross Boundary Major Infrastructure Co-ordinating Committee.* This committee was formed in October 1997 to replace the SBICC which ceased to function after 1 July 1997. In this case, it would seem that it simply involved an administrative change of name because its basic role and functions have remained more or less the same.<sup>27</sup> However, in addition to continuing the talks on major cross-boundary projects such as the Western Corridor (Shenzhen–Hong Kong transport link) and the Zhuhai–Lingdingyang Bridge, the new committee was reportedly also asked to consider issues relating to “environmental regulation, provision of non-staple foods, water supply, social welfare, business investment, and the flow of passengers, traffic and freight.”<sup>28</sup>

*Hong Kong Guangdong Co-operation Joint Conference.* This body was initiated by the Chief Executive of the Hong Kong SAR government and formed in March 1998. Its primary objectives, ostensibly described at its inauguration ceremony by the governor of Guangdong province, were to keep Hong Kong and Guangdong informed of each other's development and to co-ordinate their policies so that they could “defend themselves against attacks resulting from regional financial turmoil.”<sup>29</sup> It was agreed to hold discussions twice a year in Hong Kong and Guangzhou alternately, and three areas of cross-border co-operation were highlighted by the governor: trade and economic co-operation including infrastructure and information industry; exchanges in the areas of education, technology and professionals; and checkpoint establishment and management including a smooth flow of passengers, vehicles and freight.<sup>30</sup> By late 1998, however, the agenda of the CJC was expanded to include cross-border infrastructure projects as well as environmental protection schemes such

25. Some Executive Committee members in Hong Kong have reportedly voiced their concern to the local press “that the autonomy of the administration in deciding infrastructure plans might be damaged by the establishment of a cross-border body.” *South China Morning Post*, 16 November 1994.

26. *South China Morning Post*, 11 November 1994.

27. Planning, Environment and Lands Bureau, 1997, p. 3.

28. *South China Morning Post*, 9 October 1997.

29. *South China Morning Post*, 31 March 1998.

30. *Ibid.*



as the reduction of water pollution in shared water bodies such as Deep Bay and Mirs Bay and the possible unification of diesel fuel standards.<sup>31</sup>

*Sino-British Joint Liaison Group.* The JLG, formally launched in May 1985, was the product of the December 1984 Joint Declaration signed by the British and Chinese governments to facilitate the return of Hong Kong from the former to the latter. At the time of its inception, the JLG's responsibility was restricted to three specific tasks: "to conduct consultations on the implementation of the Joint Declaration; to discuss matters relating to the smooth transfer of [the Hong Kong] government in 1997; and to exchange information and conduct consultations on such subjects as may be agreed by the two sides."<sup>32</sup> Even though the JLG was primarily concerned with political and administrative issues, an environmental panel was nevertheless set up by the early 1990s under its auspices to deal with several major infrastructure projects with obvious cross-border environmental implications. For example, the details of the funding of the HK\$1.6 billion Shenzhen River regulation project, a joint Hong Kong–Shenzhen venture, were discussed and resolved by this panel in 1993.<sup>33</sup>

#### *Institutional Constraints in the SAR*

Despite the creation of a number of cross-boundary co-ordinating bodies and the activities undertaken under their auspices, the SAR government is still repeatedly chided for not taking more bold initiatives to discuss and implement cross-boundary co-operation projects with Guangdong province.<sup>34</sup> And judging by the official reports on the progress made by the various committees, it is apparent that the critics are justified in saying that the observable results achieved thus far have been quite limited.<sup>35</sup> Hong Kong government officials have claimed that, through the bi-monthly meetings of the EPLG's technical sub-group, "both sides had been maintaining close contact and exchanging environmental information of mutual concern."<sup>36</sup> The chair of the Hong Kong government's Advisory Committee on the Environment, however, has openly questioned the liaison group's ability to tackle cross-border pollution effectively. He charged that "the liaison group is dealing mainly with infrastructure problems. It is not properly structured and does not have any power to tackle the real pollution problems."<sup>37</sup> Sceptics, moreover, contend that the current mode of co-operation has been largely

31. *South China Morning Post*, 25 September 1998.

32. Davies and Roberts, *Political Dictionary for Hong Kong*, pp. 221–22.

33. *South China Morning Post*, 3 October 1993.

34. *Ming bao*, 20 February 2001.

35. The chair of the Hong Kong SAR Government's Advisory Committee on the Environment has reportedly remarked that "there are many official committees studying this and that ... [and] the only tangible result had been a retraining programme for users of the Shenzhen River." *South China Morning Post*, 6 May 1999.

36. Provisional Legislative Council Secretariat, Minutes of the 19 December 1997 meeting of the Panel on Environmental Affairs, 12 February 1998.

37. *One Earth*, Autumn 1997, p. 9.

confined to information exchange only.<sup>38</sup> Furthermore, the amount of relevant information released by the mainland, such as water and air quality indicators, have been extremely limited and, even when they were made available, were not accessible for public scrutiny.<sup>39</sup>

Many critics have attributed the lack of speedy and substantial progress to the unwillingness of the Hong Kong government – both the colonial and the post-1997 administrations – to take a proactive and forceful approach to cross-boundary co-operation. Although the government has repeatedly denied that cross-border co-ordination was insufficient,<sup>40</sup> critics have nevertheless identified three major institutional constraints – emanating from the worries and weaknesses of the Hong Kong government itself – that are impeding the application of more effective and persuasive efforts to resolve problems.

*The pitfall of the “one country, two systems” scheme.* In order to appreciate the critics’ argument that the Hong Kong government should bear most of the blame for the limited progress in cross-boundary co-operation, it is instructive to delineate the terms of the “one country, two systems” concept. Under this framework, which is in part designed to preserve and protect Hong Kong’s autonomy, local officials in China are barred from seeking direct contacts with their counterparts in the SAR. Instead of approaching their Hong Kong colleagues directly, they are required to submit their requests through the State Council’s Hong Kong Macau Affairs Office, which wields considerable influence on cross-border matters pertaining to the two SARs.

Although it is not codified in words, there is by now a common belief among many observers that, for any major cross-border co-operative initiative to receive the blessing of the central government, it would have to come from the Hong Kong SAR government. One unintended consequence of such an institutional arrangement is that mainland environmental chiefs are finding it very difficult to liaise effectively with their counterparts in Hong Kong.<sup>41</sup> Hence, given the hitherto accepted understanding of the provisions of the “one country, two systems” framework, the SAR government is often blamed for a perceived lack of substantial progress because it is seen as unwilling to exercise its prerogatives to initiative projects with its neighbouring jurisdictions.

Defending the SAR administration’s cautious approach to cross-border co-operation, the head of the government’s think-tank, the Central Policy Unit, pointed out that the government fully recognized the benefits of looking beyond the confines of Hong Kong’s political-administrative

38. This observation was made by the chair of the Hong Kong Government’s Advisory Committee on the Environment at a Seminar in 2000. See Lam Kim-che, *Sewage Disposal Strategy*, p. 20. This view has also been made by some critics as early as 1995. *South China Morning Post*, 4 December 1995.

39. Provisional Legislative Council Secretariat, Minutes of the 19 December 1997 meeting of the Panel on Environmental Affairs, 12 February 1998.

40. *South China Morning Post*, 1 October 1997.

41. *Ibid.*

boundary. However, given the immense differences in social, political and economic systems between the SAR and local jurisdictions in the delta region, the task of strengthening cross-border ties was described as “the most delicate.”<sup>42</sup> Patience, mutual understanding and respect were prescribed by the official as some key ingredients necessary for moving the cross-border co-operative project forward.<sup>43</sup>

Some real and considerable gaps in social and political practices aside, a more fundamental stumbling block towards enhanced government-to-government co-operation between Hong Kong and Guangdong is the fact that, currently, “both sides interpret ‘non-interference’ [in each other’s affairs] as non-communication.”<sup>44</sup> For instance, the SAR government has repeatedly declined invitations from Shenzhen and Guangzhou to co-ordinate development policies.<sup>45</sup> Not surprisingly, there are recent reports that claim that “Guangdong public officials remain frustrated about their inability to engage Hong Kong directly in tackling cross-border issues of mutual interest.”<sup>46</sup> The Hong Kong–Guangdong Co-operation Joint Conference, formed in March 1998, was supposed to meet twice a year. However, after its September 1998 meeting, it took another two years before the CJC conducted another follow-up meeting, ostensibly “due to a lack of items to discuss.”<sup>47</sup> It is apparent that the day-to-day, operational terms of the “one country, two systems” model have yet to be clearly delineated, and the present-day interpretation of its *modus operandi* has inadvertently stifled official communication between the SAR and mainland jurisdictions, to the detriment of some worthwhile regional co-operation schemes.

*Preserving Hong Kong’s autonomy.* Another major reason accounting for the reluctance of the Hong Kong government to embrace any cross-border co-operative accord is the administration’s expressed fear of compromising its own autonomy in the process. This worry first surfaced in 1994 when the former colonial government deliberated on whether or

42. The head of the Central Policy Unit has reportedly said that “Hong Kong government officials do not hold sway over their regional counterparts and must, and do, treat them duly as important equals. Likewise, delta officials cannot, and do not, leverage any of their political prerogatives on Hong Kong, if only because of the sheer weight of economic power vested in the SAR.” *South China Morning Post*, 24 May 2000.

43. For instance, in response to suggestions by some green groups that officials should take a tougher stance with southern China over anti-pollution measures in new power stations, Hong Kong Environmental Protection Department officials reportedly said that “putting pressure on our [counterparts] during talks in the Hong Kong–Guangdong EPLG is not appropriate ... rather, it is a question of exchanging information and experience so that our [counterparts], and indeed we ourselves, are best placed to discharge our [respective] responsibilities for safeguarding the environment.” *South China Morning Post*, 4 December 1995.

44. This remark was made by Ma Lik, a Hong Kong delegate to the National People’s Congress. See Rachel Stern, “Addressing cross-border air pollution: a comparative case study,” mimeograph, 2000.

45. Mitchell, “Married to the mainland,” p. 26.

46. Simon Pritchard, “SAR must overcome fears of northern exposure,” *South China Morning Post*, 14 March 2001.

47. *South China Morning Post*, 24 May 2000.

not to accept a Chinese proposal to set up a co-ordinating body on cross-border infrastructure. At that time, some Executive Council members as well as some legislators expressed grave reservations and earnestly voiced their concern that such a body might undermine Hong Kong's autonomy in infrastructure planning and investment decisions.<sup>48</sup> In principle, everyone accepted that a centralized body acting as a forum to exchange information, minimize duplications and reduce externality impacts of infrastructure projects would benefit participating jurisdictions in the whole region. Detractors, however, pointed out that, despite an official Chinese pledge that the proposed committee would not erode the authority of the Hong Kong government, " 'consultation' at vice-ministerial level as proposed could end up as a mechanism for imposing central control over Hong Kong's ... internal projects."<sup>49</sup> In the end, after much debate and deliberations, the Hong Kong government accepted the proposal, but only after it had satisfied itself with the assurance tendered by the Chinese government that the co-ordinating body was designed to facilitate a speedy exchange of ideas and not to delay decisions and that the committee would not in any way undercut Hong Kong's autonomy in so far as infrastructure planning was concerned.<sup>50</sup>

Although officials in the post-1997 Hong Kong administration have not openly expressed their concern over the autonomy question, there are some signs to postulate that such a fear has lingered on.<sup>51</sup> It has been reinforced by worries voiced by some local pressure groups who believed that "too much cross-border contact would allow mainland-style corruption and socialist economic thinking to contaminate Hong Kong's free market system."<sup>52</sup> Observers have detected little enthusiasm among Hong Kong civil servants for any form of collaboration with their mainland counterparts which might lead to undue influence on their own policy formulation process.<sup>53</sup> Some Hong Kong government officials have also expressed reservations about the provision of financial support to mainland jurisdictions for pollution abatement schemes, even if such projects would have direct or indirect benefits for Hong Kong's environment and were proven to be more cost-effective than local clean-up initiatives. In addition to safeguarding Hong Kong's own autonomy, sceptics were clearly concerned that even a handful of assistance projects could mushroom into an overwhelming number of requests from other jurisdictions for joint funding ventures.<sup>54</sup>

48. *South China Morning Post*, 12 November 1994; 16 November 1994.

49. *South China Morning Post*, 11 November 1994.

50. *South China Morning Post*, 12 November 1994.

51. Hills, "The environmental agenda," p. 206.

52. Mitchell, "Married to the mainland," p. 24.

53. Peter Hills, Lei Zhang and Jianhua Liu, "Transboundary pollution between Guangdong province and Hong Kong: threats to water quality in the Pearl River Estuary and their implications for environmental policy and planning," *Journal of Environmental Planning and Management*, Vol. 41, No. 3 (1998), pp. 391-92.

54. Plato Yip, assistant director of Friends of the Earth, an environmental NGO based in Hong Kong, reportedly said that some Hong Kong officials had expressed concern to him, in private, over the case of Hong Kong making low-interest loans to the mainland for the

*The lack of a coherent policy on cross-border co-ordination.* In spite of the activities undertaken by the cross-border co-ordination committees, critics have argued that Hong Kong's current mode of co-operation with its neighbours is "ad hoc and reactive."<sup>55</sup> For a long time before 1997, government planners in Hong Kong were criticized for a lack of willingness to take into serious consideration the larger regional macro-level factors in formulating and evaluating long-term development options.<sup>56</sup> This self-imposed, circumscribed approach has been attributed to the colonial government's inexorable view that Hong Kong was a "borrowed place" with a limited time horizon.<sup>57</sup> And here lies the root of the underdevelopment of cross-border institutional and infrastructure arrangements between Hong Kong and mainland jurisdictions.<sup>58</sup> In the words of one observer: "Hong Kong's 150 years colonial history [has] programmed the government to face away from the border, seek opportunity in trade and later manufacturing, but avoid deeper integration [with mainland jurisdictions]."<sup>59</sup> Despite formal political integration and the new political correctness in handling cross-border relationships, little has changed in practice in the post-1997 milieu. The tradition and the inherent planning values and practices are not going to change overnight after a political transition with minimal alterations in the bureaucracy. The legacy of the colonial planning philosophy, not technical difficulties, is the fundamental cause of a weak cross-border link.

Paradoxically, then, the creation of a succession of cross-border co-ordination committees in the 1990s actually lends support to the critics' contention that there was no unified policy on cross-border issues on the part of the SAR administration. With the membership of such committees invariably comprising officials drawn from several different policy bureaus and departments, very often "it means no department is held

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*footnote continued*

Dongjiang project because it might lead to relentless demands from many other jurisdictions for financial assistance (*Ming bao*, 9 October 1999); see also Hills *et al.*, "Transboundary pollution between Guangdong province and Hong Kong," pp. 391–92.

55. *South China Morning Post*, 24 May 2000.

56. Mee-Kam Ng, "Urban and regional planning," in Joseph Cheng and Sonny Lo (eds.), *From Colony to SAR; Hong Kong's Challenges Ahead* (Hong Kong: The Chinese University Press, 1995), pp. 245–46. Several post-1997 planning exercises have shown that government planners in the SAR administration have remained coy about looking at Hong Kong in regional terms. *South China Morning Post*, 5 March 2001. The latest planning exercise conducted by the Hong Kong government's Planning Department, however, has been considered as a breakthrough in this regard by explicitly embracing cross-border linkages as a parameter in charting the SAR's long-term development options. See *Hong Kong 2030; Planning Vision and Strategy; Stage 1 Public Consultation* (Hong Kong SAR Government: Planning Development, 2001).

57. See Lam Kim-che, *Sewage Disposal Strategy*, p. 18.

58. David K.Y. Chu, "Accelerating integration between Hong Kong and southern China," in Graham Chapman, Ashok Dutt and Robert Bradnock (eds.), *Urban Growth and Development in Asia; Volume 1: Making the Cities* (London: SOAS Studies in Development, 1999), p. 422.

59. Pritchard, "SAR must overcome fears of northern exposure."

responsible.”<sup>60</sup> Given the usual bureaucratic rules in policy formulation and implementation in the Hong Kong government, such an interdepartmental committee approach only helps reinforce the notion of a lack of an institutional home base and an incoherent strategy for cross-border co-ordination initiatives.<sup>61</sup> Finally, the Chief Executive of the SAR government has also been blamed for his failure to design and articulate an overall vision and strategy for integration with jurisdictions in the Zhu River Delta.<sup>62</sup> The articulation of such a vision is important because it would serve as the basis for a community-wide debate to help raise awareness and identify some far-reaching implications of an intensified integration with the mainland.

Notwithstanding the SAR administration’s reluctance to take a proactive stance towards cross-border co-operation, some observers have argued that there are limits to what the Hong Kong government alone could do to resolve the problems.<sup>63</sup> For example, a critic sympathetic to the SAR administration has maintained that “Hong Kong’s attempts to rouse its neighbours into action on environmental issues often disappear into the black hole of the Guangdong bureaucracy.”<sup>64</sup> One underlying reason for this remark is that, as far as mainland officials are concerned, the environment has been accorded a much lower priority than other issues such as economic growth.<sup>65</sup> This is particularly true among local jurisdictions, who are deeply involved in running their own enterprises and have been considered as even more pro-growth than the SAR government.<sup>66</sup>

### *Questions Unanswered*

Given the current trends and the existing institutional constraints, and from the perspective of Hong Kong’s environmental managers, how much is known about the state of the cross-border environmental problems? First, an accumulating body of evidence has reinforced the notion that there are some real limits to what Hong Kong alone could do to resolve its environmental pollution problems because some of them originate in part from across the border. For instance, even if Hong Kong were able to install and operate a full-scale sewage treatment system, the

60. This statement was made by Cheng Yiu-tong, an NPC local deputy highly critical of the lack of progress in strengthening cross-border co-operation between Hong Kong and mainland jurisdictions. Quoted in *South China Morning Post*, 20 November 1998.

61. I am grateful to Peter Cheung for pointing out this dimension of the constraint in policy-making in the SAR government.

62. *South China Morning Post*, 24 May 2000.

63. Citing the problem of duplication of infrastructure facilities, for instance, observers have blamed Beijing and the Guangdong provincial government for their inability to rationalize the distribution of the many airports and seaports built by local jurisdictions in the delta region. *Ibid.*

64. *South China Morning Post*, 29 February 2000.

65. For instance, the governor of Guangdong province has said that the CJC’s first priority on cross-border relations would pertain to economic matters (*Xingdao ribao*, 14 November 1999).

66. David K.Y. Chu, Jianfa Shen and Kwan-yiu Wong, “Shenzhen–Hong Kong as one: modes and prospects of regional governance in the PRD,” mimeograph, 2000, pp. 2–3.

quality of water in the SAR may still remain poor because its water bodies will continue to be affected by pollution stemming from upstream economic activities in Guangdong province. The continued degradation of the water quality in Deep Bay is a vivid example of how a fragile eco-system that straddles the boundary between two jurisdictions is being eroded by unrestrained development pressures on both sides of the border. It has also become evident that several major pollutants affecting Hong Kong's ambient air quality have been blown into the SAR by strong prevailing winds, particularly during the winter months, from other parts of China.<sup>67</sup> What this means is that an important part of any strategy to reduce emissions within Hong Kong must also address the problem of pollution in the intermediate surrounding region outside the SAR's boundary.<sup>68</sup>

Moreover, given that the existing development patterns and trends in Hong Kong and the larger Zhu River Delta region will in all likelihood persist into the next decade, and given that there is no end in sight for overcoming the institutional inertia, the environmental conditions in the SAR are going to get worse before they get better. In response to the demands from sustained economic growth in the delta region and from an escalating volume of cross-border passenger and goods flows, an increasing number of infrastructure projects are being put in place or proposed to relieve the bottlenecks. According to one scenario, for instance, the volume of cross-border traffic will increase by 400 per cent between 2000 and 2016.<sup>69</sup> Unless there is a radical change in transportation investment policy on both sides of the border from an emphasis on motor vehicles to a rail-dominated system, the amount of automobile emissions will only increase as the number of motorized vehicles multiplies in the region. By the same token, unless local jurisdictions in the delta commit themselves to investing in and co-ordinating their respective water treatment facilities, given Hong Kong's downstream location at the estuarial area of the region, the SAR's marine water quality, particularly its western water bodies, will continue to deteriorate regardless of its own efforts to control local pollution sources.<sup>70</sup>

67. Barron and Steinbrecher, *Heading Towards Sustainability?* p. 155. The Environmental Campaign Committee of the Hong Kong SAR government admitted that it would take five to ten years to phase out some diesel vehicles and to improve the emissions of other types of vehicles, but even then, "regional pollution from various sources around the Pearl River Delta will continue to affect Hong Kong," *Bulletin of Environmental Campaign Committee*, February 2000.

68. For instance, Tung Chee-hua, in announcing the formation of the Joint Working Group, admitted that "Hong Kong cannot possibly solve all of its environmental problems single-handedly. We need to work closely with the mainland authorities ... to protect our air and water quality." *South China Morning Post*, 7 October 1999.

69. Stern, "Addressing cross-border air pollution."

70. For instance, in late 2000, the former SAR Chief Secretary reportedly said that the Hong Kong SAR and the Guangdong provincial governments would "work together to reduce water pollution in Deep Bay to a satisfactory level by 2015." *South China Morning Post*, 26 September 2000. The chair of the SAR's Advisory Committee on the Environment has also said that even if all the local jurisdictions in the Zhu River Delta could fully implement their wastewater treatment projects, it will take at least 20 years before the water quality in the Zhu River could reach the current stipulated standards. He has, therefore, argued that, at the

Furthermore, despite the fact that there is a clear consensus among Hong Kong's environmental professionals that there are cross-border interactions on pollution matters between the SAR and its neighbouring jurisdictions, little is actually known about the specifics of the influence of pollutants on the SAR's air and water quality from sources originating from the delta region and beyond, and vice versa. For instance, due to limited resources and a lack of cross-border co-operation, the specific impact of upstream concentrations in the Zhu River system on concentrations within Hong Kong's waters cannot be determined with certainty.<sup>71</sup> There is also insufficient publicly available data to provide conclusive evidence on the extent of Hong Kong's air pollutants that could be traced to the industrial areas in the delta region and the larger Guangdong province.<sup>72</sup> Such scientific details on the environmental pathways and patterns are, however, necessary for the formulation of effective management strategies in dealing with region-wide water and air pollution problems.

Apart from a lack of such technical information, however, there are also a number of broad policy-related questions that have remained unanswered or unexplored. For instance, it may be the case that more cost-effective solutions to environmental problems in Hong Kong might be identified by examining the potential for environmental investment projects across the border which could help reduce negative cross-border environmental effects on the SAR. We know that the majority of the public in Hong Kong support increased government spending on environmental improvements,<sup>73</sup> but to what extent are they willing to support the idea of using the same money on improvement projects in the Zhu River Delta?

Moreover, while Hong Kong's environmental managers have asked Guangdong province to consider changing its fuel standards to help reduce regional emissions, to what extent are they willing or able to ask their own power utilities and public transport companies to switch to environmentally friendlier but more expensive alternative fuel sources? Another pertinent question is whether Hong Kong, in asking Guangdong to upgrade its fuel standards, should compensate it for its willingness to forgo one of its competitive advantages as a low-cost production site. Furthermore, if we accept the argument that Hong Kong businesses indeed control a vibrant manufacturing sector which is located outside its administrative boundary, then could something be done by the SAR government to encourage these firms to help tackle pollution problems that are produced in upstream and upwind locations from Hong Kong?

With knowledge of the state of cross-border environmental problems,

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*footnote continued*

regional scale, the highest priority should be given to wastewater treatment projects. See Lam Kim-che, *Sewage Disposal Strategy*, p. 19.

71. Barron and Steinbrecher, *Heading Towards Sustainability?* p. 154.

72. *Ibid.* p. 158.

73. Yok-shiu F. Lee, "Clear consensus, nebulous commitment: public attitudes toward the environment in Hong Kong," *Asian Geographer*, Vol. 18. Nos. 1 and 2 (1999), p. 143.



and the lack of such in certain dimensions, several priority policy issues stand out. First, there is a need for the SAR government to pursue a long-term planning study in co-operation with its neighbouring jurisdictions in Guangdong province, particularly the Shenzhen and Zhuhai Special Economic Zones. Within a long-term strategic framework and placed in a larger regional context, SAR officials would need to ask themselves the following questions. To what extent, and how, could Hong Kong reconsider its own development model of the “front shop, rear factory”<sup>74</sup> set-up to help minimize cross-border environmental impacts? In what ways could Hong Kong reconsider its perceived role as the transport hub of the Zhu River Delta region as it will require massive public works and lead to a host of transport infrastructure projects converging on the SAR?<sup>75</sup> To what degree, and through what development strategy, could Hong Kong fulfil the vision painted by the Commission on Strategic Development that the Zhu River Delta would become “a unified whole 30 years from now and that the region would grow into a mega-city with the SAR at its centre”?<sup>76</sup> One of the key policy questions that arises from such concerns is: how, and to what extent, could Hong Kong and its neighbouring authorities control the growth of vehicular traffic, and hence emissions, in Hong Kong and in the region?

Secondly, it is unlikely that Hong Kong can make significant progress in the pursuit of sustainable development if it fails to take into account the pace and form of development of adjacent regions across the border. Given Hong Kong’s geographical location and its ecological parameters, sustainable development – in the sense of giving the highest priority towards preserving the integrity and sustainability of the ecological system – is only meaningful if it is operationalized at the eco-system level (such as river basin) and could only be achieved through some concerted efforts at the wider regional level. To the extent that cross-border environmental problems have had an impact on Hong Kong’s policies on the environment and sustainable development, it is imperative that a “Local Agenda 21” for the entire Zhu River Delta region should be drawn up through some regional, co-operative mechanism that involves all the relevant stakeholders. The outstanding question is: what specific steps or policy actions could be taken by the SAR government, other local jurisdictions in the Zhu River Delta, the Guangdong provincial government and the central government, to bring forth a collective move in that direction?

Thirdly, it is apparent that any effective cross-border co-operative mechanism will require the SAR government to devise and maintain a

74. For an elaboration of this “front shop, rear factory” model, see Victor F.S. Sit, “Hong Kong’s ‘transferred’ industrialization and industrial geography,” *Asian Survey*, Vol. 38, No. 9 (1998), pp. 880–904.

75. For instance, by 2011, more than 150,000 goods vehicles a day are expected to cross the border into Hong Kong, compared with 20,000 a day in 1994. *South China Morning Post*, 1 July 1997.

76. *South China Morning Post*, 26 February 2000.

multi-layer co-ordination system with the central government, the Guangdong provincial government, the various local jurisdictions in the delta region, and the two adjacent special economic zones (SEZs) of Shenzhen and Zhuhai. However, given that the SAR government is now dealing almost exclusively with the Guangdong government on cross-border environmental matters, to what extent should it devote its limited resources in strengthening that working relation or shift some of those resources into building a bilateral governance structure with the two SEZs, with whom Hong Kong actually shares several common environmental resource systems? This question will become particularly pertinent if Shenzhen is granted its wish to attain the status of a municipality directly under the central government. While such a move may turn it into an economic rival of Hong Kong, it may also lead to some positive outcomes for cross-border co-operative clean-up efforts because SAR officials could then bypass the cumbersome Guangdong provincial bureaucracy and negotiate directly with their Shenzhen counterparts.<sup>77</sup>

Fourthly, regardless of whether there will be a multi-layer or a bilateral governance structure to resolve transboundary environmental issues affecting the SAR, it is in all likelihood going to be primarily a government- and expert-driven process. To ensure that such a structure will receive support as well as inputs from the larger public and key stakeholders such as the private sector and non-governmental organizations, it is important for governments on both sides of the border to allow a maximum degree of transparency and accountability to be built into the co-ordinating mechanism. There are signs that both the SAR and Guangdong governments, bowing to public pressure, are taking steps in that direction. For example, both governments have recently decided to publish the data on the quality of Dongjiang water supplied to Hong Kong.<sup>78</sup> A major policy issue here pertains to the form of the mechanism by which the larger communities on both sides of the border could be effectively and fully incorporated into the cross-border co-operative process on environmental management. However, interest in cross-border pollution issues is apparently far higher in Hong Kong than in Guangdong, which could make it difficult for the former to find a sufficient number of corresponding partners in the latter to carry forward the dialogue and implement action plans in a manner that is transparent and accountable to their respective constituencies.<sup>79</sup>

### *Implications for Research*

Research has shown that there are major gaps in our knowledge regarding both the technical and the institutional dimensions in furthering and reinforcing cross-border co-operation on environmental matters

77. *Ibid.*

78. The water quality data on Dongjiang were made public for the first time by the Guangdong authorities in May 2001. See *Ming bao*, 17 May 2001.

79. Stern, "Addressing cross-border air pollution."

between the SAR and Guangdong jurisdictions. On the one hand, one of the major obstacles to designing and implementing cross-border pollution abatement programmes is the lack of relevant technical data. Information on the exact sources and quantities of pollution are scarce, and very few people know how environmental laws differ between the SAR and Guangdong province. On the other hand, while there is a consensus on the need to create new institutions to help tackle cross-border environmental issues, there seems to be no simple and easy choice in arriving at a mode of regional governance that is efficient, fair and politically acceptable to all the stakeholders concerned, at the local, provincial and national levels.

Currently, data used to determine cross-border effects of pollutants on air quality in the SAR are limited to those collected from air quality monitoring stations operated by Hong Kong's Environmental Protection Department, local reports prepared by the department on elevated meteorological effects, and Hong Kong Observatory meteorological information.<sup>80</sup> For the purposes of devising effective management and abatement initiatives, however, it is necessary to collect regional-level data on environmental pathways and emission patterns. The development of a substantial body of such data is needed so that the temporal and spatial patterns of various types of pollution can be monitored, and their sources and receivers clearly identified. Once established, this data source could serve as the basis for generating cross-border co-operative policy initiatives for the delta region. Ideally, standards and measurements pertaining to air pollution sources in areas adjoining Hong Kong would be compiled and used to create mathematical models of pollution dispersions and deposition. This is particularly true for photochemical smog as the photochemical reaction is a very complicated process and advanced prediction models are needed to evaluate the future trend of this problem and the effectiveness of various measures identified.<sup>81</sup> Information on air pollution emissions in Hong Kong's adjacent regions such as the Shenzhen SEZ is very limited, however.<sup>82</sup> The release of the results from the joint study on air pollution will certainly help fill this information gap.

While almost everyone by now agrees that, in the short term, there is an obvious need for the development of a comprehensive data base concerning air and water quality in the Delta region, the process of generating and sharing such regional-level data has been painfully slow and limited. One major obstacle to collecting and releasing a greater amount of environmental data in the region is the entrenched perception, primarily on the part of the Chinese authorities but also found among Hong Kong officials, that environmental figures are very sensitive infor-

80. Barron and Steinbrecher, *Heading Towards Sustainability?* pp. 156–57.

81. Planning, Environment and Lands Bureau, "Study on air quality in the Pearl River Delta region," paper prepared for Legislative Council Panel on Environmental Affairs, 1998, p. 4.

82. Barron and Steinbrecher, *Heading Towards Sustainability?* p. 156.

mation and need to be kept as “state secrets.”<sup>83</sup> A key question for further research in this regard, then, is how the SAR officials and their counterparts across the border could work together in generating and sharing the data that they both need in tackling mutual environmental problems.

In the longer term, another major area of technical co-operation lies in the feasibility of working towards the unification of regional environmental management objectives in the delta region; the unification of cross-border environmental protection legislation and policies; and the harmonization of environmental standards between the SAR and Guangdong authorities.<sup>84</sup> These tasks are, however, complicated by the fact that Hong Kong and the various localities in the delta region are constrained by the resources available to them at their corresponding levels of economic development, and are hence pursuing different priorities and development objectives. These differences are further aggravated by two vastly different legal traditions governing the SAR and Guangdong province.<sup>85</sup>

At present, the cross-border co-operative mechanism has been limited to information exchange and joint research. It has been, nevertheless, considered by some advocates as quite successful in implementing some cross-border environmental improvement schemes such as the Shenzhen River regulation project. These advocates also highlight the fact that the existing framework provides an excellent basis to help build and reinforce mutual trust required for any intensification of cross-border co-operation. They therefore see the strengthening of the existing institutional framework as the first and most obvious option.<sup>86</sup> They argued that the scope of co-operation of these existing structures could be enlarged and broadened, along with a significant increase in resources, so that government-to-government co-ordination could move towards true joint management on specific programmes and not a mere consultation on broad policies. For instance, in addition to conducting joint studies on air pollutants affecting the SAR and the delta region, the Hong Kong–Guangdong Joint Working Group on Sustainable Development and Environmental Protection could implement a joint management programme by creating a cross-border air quality management district.<sup>87</sup>

83. For example, the chair of Hong Kong’s Advisory Committee on the Environment has openly complained that the mainland authorities have treated environmental impact assessment reports as “state secrets.” *South China Morning Post*, 6 May 1999. A NASA study of air pollution in East and South-East Asia was launched in Hong Kong in March 2001. However, despite the mainland’s growing impact on global air pollution, it was not included in the study. A Hong Kong scientist reportedly said that China did not participate in the study ostensibly because of “military concerns.” *South China Morning Post*, 18 February 2001.

84. Hills *et al.*, “Transboundary pollution between Guangdong province and Hong Kong,” p. 392; *South China Morning Post*, 9 July 2000.

85. Ma Xiao Ling, “Zhujiang sanjiaozhou quyu huanjing baohu yi yuegang huanjian hezuo” (“Regional environmental protection and co-operation between Guangdong and Hong Kong”), in Wong Chong Kim, Chu Ka Hou, Chen Qing Chao and Ma Xiao Ling (eds.), *Zhujiang ji yanan huanjing yanjiu (Environmental Research in Zhu River and Coastal Areas)* (Guangzhou: Guangzhou Higher Education Press, 1995), pp. 162–66.

86. Lam Kim-che, *Sewage Disposal Strategy*, p. 20; Hills *et al.*, “Transboundary pollution between Guangdong province and Hong Kong,” p. 391.

87. Stern, “Addressing cross-border air pollution.”

A number of green groups and academics in Hong Kong, on the other hand, have argued for the establishment of a *new* regional environmental governance structure. The underlying premise for this proposal is the recognition that while the urban settlements in the Zhu River Delta, including Hong Kong, are developing and congregating into one of the world's largest city-regions, there is currently little integrated planning.<sup>88</sup> A regionally based planning framework and related institutions to address region-wide concerns, including the environment, is therefore warranted and is considered essential by some quarters in strengthening the integration between the Hong Kong and Zhu River Delta jurisdictions.<sup>89</sup> An early version of this idea was first floated in 1997 when Friends of the Earth urged the Hong Kong government to follow international practices and establish a regional convention on cross-border environmental problems to help establish common environmental objectives between the mainland and the SAR.<sup>90</sup> This idea was, however, never actively pursued by the SAR government.

In 2000, the Conservancy Association put forward a variant of the idea of a regional planning institution. They proposed that "a council of mayors of major Zhu River Delta cities" should be formed to tackle cross-border pollution problems, with the SAR government providing the principal source of funding for local authorities in Guangdong to clean up the environment.<sup>91</sup> This proposal, however, was criticized by a Hong Kong deputy to the National People's Congress as "impractical" because it was politically inappropriate, within the terms of China's administrative hierarchical structure, for the SAR government to make such demands on its neighbouring jurisdictions.

Regardless of whether one should opt for the strengthening of the existing framework or for the creation of a new governance structure, the idea of a regional environmental governance system (that is, an ecosystem approach) would necessarily demand a fundamental paradigmatic shift in the thinking of political leaders and environmental managers in the region.<sup>92</sup> The basic tenet of an ecosystem approach – "multiple jurisdictions, one system" – would seemingly run into a direct contradiction of the principle of the "one country, two systems" framework that is governing Hong Kong's relationship with the mainland. Further research is therefore needed to help identify the most promising avenue to establish such a system that is acceptable to all the stakeholders con-

88. Hills, "The environmental agenda," pp. 205–206; Chu *et al.*, "Shenzhen–Hong Kong as one," p. 10.

89. Mee Kam Ng, "A research agenda for regional development planning in Hong Kong/South China: lessons from selected Asian countries," *Planning and Development*, Vol. 11, No. 1 (1995), pp. 8–23. Mee Kam Ng and Wing-Shing Tang, "Land-use planning in 'one country, two systems': Hong Kong, Guangzhou and Shenzhen," *International Planning Studies*, Vol. 4, No. 1 (1999), pp. 7–27.

90. *South China Morning Post*, 4 August 1997.

91. *South China Morning Post*, 28 August 2000.

92. Peter Hills and Peter Roberts, "Political integration, transboundary pollution and sustainability: challenges for environmental policy in the Pearl River Delta region," *Journal of Environmental Planning and Management*, Vol. 44, No. 4 (2001), pp. 455–473.

cerned. And this is an area, as well as technical issues such as data generation and collection, where international experiences on cross-border co-operation on environmental management could help.<sup>93</sup>

With regard to enhancing the research capacity on cross-border environmental issues, there is an apparent need for new institutions to be created and new research projects to be undertaken at existing institutions. There is also an apparent need to develop greater expertise in cross-border pollution and environmental problems on both sides of the border, particularly in the mainland.<sup>94</sup> Ideally, in the long run, think tanks that operate at the regional level and across jurisdictional boundaries should be developed. In the short run, inter-university research programmes that bring together academics from both sides of the border – funded by both the government and the private sector – would help address the shortfall in our understanding of the dynamics of cross-border environmental problems.<sup>95</sup>

### *Future Outlook*

Critics with a pessimistic slant argue that political responses to environmental issues are typically slow and that usually there has to be very widespread and very visible environmental damage before action is taken. They thus contend that unless the delta region is hit by an environmental disaster, not much progress will be made in tackling environmental problems.<sup>96</sup> Optimists, on the other hand, agree that although the problems of ambient air pollution and water pollution in Hong Kong will probably continue to worsen in the coming years, there are two geographical areas where transboundary environmental problems are likely to be resolved or at least brought under control; the Shenzhen River and Mirs Bay. The water quality in the Shenzhen River will be gradually improved as the Shenzhen River regulation project moves into its third phase focusing on pollution prevention and environmental improvement. Although there are some conflicting environmental standards and objectives between Hong Kong and Shenzhen over the water quality of Mirs Bay, the fact that there are only two parties – Hong Kong and

93. The author has examined the relevance of such international experiences elsewhere. See Yok-shiu F. Lee, "Toward effective regional environmental governance for the Hong Kong–Pearl River Delta border zone: the relevance of some international experiences," in Anthony Gar-On Yeh, Yok-shiu F. Lee, Tunney Lee and Sze Nien Dak (eds.), *Building A Competitive Pearl River Delta Region; Cooperation, Coordination, and Planning* (Hong Kong: Centre of Urban Planning and Environmental Management, The University of Hong Kong, 2002), pp. 205–233.

94. Stern, "Addressing cross-border air pollution."

95. Recently, within the SAR, there were also competing proposals that argued for either the NGOs community or the private sector to take the lead in establishing a cross-border think tank and formulating the agenda on deliberating cross-border environmental issues. However, these proposals, for reasons unknown to the author, were not well-received by the Hong Kong government. *Wenhui bao*, 25 July 2000; *South China Morning Post*, 1 October 1997.

96. For instance, in early 1998, it wasn't until the Zhu River Delta estuarial areas were hit by "the worst case of red tide in Guangdong's history" that a sub-group under the Environmental Protection Liaison Group was prompted "to discuss closer cross-border co-operation." *South China Morning Post*, 19 April 1998.

Shenzhen – involved in the negotiation process and that the Shenzhen government has promised to give a higher priority to protecting the water quality of Mirs Bay, this is a place which is receiving extra attention from both the Hong Kong and Shenzhen governments in terms of environmental protection.

In the long term, one of the challenges faced by political leaders and environmental managers in Hong Kong and Guangdong province pertains to the problem of resolving the dilemma between the need to keep the political promise of the “one country, two systems” framework and the need to pursue the environmental imperative of a “multiple jurisdictions, one ecosystem” approach to tackling cross-border environmental issues. In order to foster closer co-operative working relations across the border, political leaders will have to commit themselves to a break with the past. This will essentially require them to embrace a new *modus operandi*, which constitutes a fundamental change in environmental management approaches and institutional structures. Specifically, this, from the perspective of Hong Kong officials, would translate into an action agenda that includes an institution-building programme to help foster mutual trust and communication with the mainland at both the individual and organizational levels, an enhanced research capability to conduct scientific and policy analysis at the regional scale, and a public participation mechanism to allow a consensus-building process to take root in the SAR.<sup>97</sup>

Building effective cross-border institutions and mutual trust is a process that requires each party to show its commitment and capability by addressing problems that fall within its own jurisdiction before it could demand that the other parties co-operate in any cross-border scheme. In other words, if Hong Kong continues to fail to resolve its own domestic environmental problems, it is in a very weak position to persuade its neighbours to the north to take action to help protect its environment. Hence, paradoxically, the more the SAR government emphasizes cross-border co-operation on environmental protection, the more it needs to invest in and improve upon its own internal environmental management programmes. In fact, there is a strong argument for environmental managers in the SAR to focus more on domestic than external factors that contribute to pollution. First, most of the pollution problems are locally produced. Secondly, the focus on cross-border issues has been diverting attention away from some equally important issues such as internal air pollution, poor urban design standards and the poorly maintained water supply networks in old buildings.

Moreover, building cross-border institutions is a very long-term process which will require a strong political will on the part of all the stakeholders to ensure that the process will move forward. There are, however, signs that there is a lack of political will on the part of the SAR government to sustain its efforts on environmental protection. The chair

97. The author is indebted to Peter Cheung for pointing out the importance of the institution building and consensus building processes in public policy making in Hong Kong.

of the SAR government's own Advisory Committee on the Environment has openly complained that environmental protection has never been given high priority by either the pre- or post-1997 Hong Kong government.<sup>98</sup> The Secretary for Planning, Environment and Lands also admitted that the government budget had overlooked the environment and lacked initiatives to improve the environment.<sup>99</sup> Furthermore, within the SAR, the constituency for some kind of intensified and strengthened cross-border co-operation, particularly within the ranks of the civil servants, is tiny.<sup>100</sup> Finally, current signs strongly suggest that the SAR government is even more pro-business than the colonial administration because great importance is given by both the central government and local officials to ensuring continued economic growth and social stability.<sup>101</sup> Thus, coupled with China's fragmented environmental governance structure<sup>102</sup> and a dominant pro-growth culture permeating the Delta region,<sup>103</sup> all indications point to an uphill and a long drawn-out battle for environmental managers on both sides of the border to bring forth improvements in this fast-growing and continually deteriorating landscape.

98. Lam Kim-che, *Sewage Disposal Strategy*, p. 19.

99. *South China Morning Post*, 16 March 1999.

100. Personal interview with Man Chi-sum, 11 December 2000.

101. For instance, the SAR's Financial Secretary, in his 2001 budget document, said that improvements to infrastructural connections between Hong Kong and the south China region would be given priorities to facilitate the flow of people, vehicles and goods across the border, despite reservations raised by environmental NGOs on the impact of such large-scale infrastructure projects on the delta's fragile ecosystems. Given that Hong Kong does not at present have a mechanism to control the rate of increase of vehicle numbers, improved cross-border transport infrastructure could only worsen the air pollution problem in the SAR. *South China Morning Post*, 8 March 2001.

102. For a succinct discussion of China's fragmented environmental governance problem, see Kenneth Lieberthal, "China's governing system and its impact on environmental policy implementation," *China Environment Series*, Issue 1 (1997), pp. 3–8.

103. For a further discussion of the pro-growth culture in the Zhu River Delta region, see Yok-shiu F. Lee, "Environmental issues arising from rural industrialization and decentralized urbanization in the Pearl River Delta," *China Environment Report: Ecological Lessons of the Pearl River Delta* (Hong Kong: Greenpeace China, 2001), pp. 23–35.